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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,741	05/02/2002	Timothy Noel Mills	537-1064	7330
7590	04/22/2004		EXAMINER	
Smith McWilliams Sweeney & Ohlson PO Box 2786 Chicago, IL 60690-2786			MACCHIAROLO, PETER J	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application N .

10/019,741

Applicant(s)

MILLS ET AL.

Examiner

Peter J Machiarolo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 05/2002.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statements (IDS) submitted on 05/02/2002 and 05/31/2002 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the medical examination equipment and means for displaying the detected modulated reflected signal as recited in claim 6 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The Specification entered on 10/18/2001 is objected to because it lacks the proper headings.

***Claim Objections***

5. **Claims 1 and 2 are objected to because of the following informalities:**
6. Claim 1 should read, “being provided with an interferometer film.”
7. Claim 2 recites the limitation, “the inner core defines a single mode fibre.” This is not clear. The Examiner reads, “the inner core is a single mode fiber. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. **Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**
9. Applicant claims, “an acoustic signal,” and “a signal produced in the sample” in lines 6 and 10 on page 7 (i.e. lines 1 and 7 of claim 1). Where a claim directed to a device can be read to include the same element twice, it is considered indefinite. *Ex parte Kristensen*, 10 USPQ2d 1701 (Bd. Pat. App. & Inter. 1989). It is not clear if the claim refers to an additional signal, or the same signal previously recited. The Examiner is interpreting the claim to recite only one signal. See MPEP § 2173.05(o).

***Allowable Subject Matter***

10. Claims 1-6 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

11. The following is an examiner's statement of reasons for allowance:

12. The Examiner notes the preamble of claim 1, "a probe for the excitation of a sample to produce an acoustic signal and for analysis of the signal," supplies antecedent basis for "[the signal]" and "the sample" in line 7. Since the body of the claim therefore depends on the preamble for completeness, the preamble is accordingly afforded patentable weight. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

13. The prior art of record discloses probes for exciting a sample to produce an acoustic signal for analysis of the signal having an excitation source which provides a pulsed laser output to an optical fiber, and a light source and detector assembly which provides a signal to the fiber and detects the reflected signal received from the fiber (see USPN's 5125749 to Leugers et al; 5348002 to Caro; 5718231 to Dewhurst et al; 5840023 to Oraevsky et al; 6403944 to MacKenzie et al; and 6498942 to Esenaliev et al).

14. However, the prior art of record fails to disclose or motivate a probe for the excitation of a sample to produce an acoustic signal and for analysis of the signal comprising an optical fiber having a central inner core, a concentric outer core and an outer cladding, the pulsed laser output being supplied to the outer core at a first end of the optical fiber, the second end of the optical fiber being provided with an interferometer film which is substantially transparent to the laser pulses, the signal produced in the sample modulating the thickness of the film, and a light source

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and detector assembly which provides an interferometer signal to the inner core at the first end of the fiber and detects the modulated reflected signal from the inner core.

### *Conclusion*

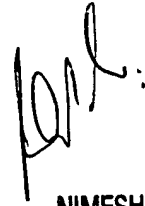
15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375. The examiner can normally be reached on 8:30-5:00, Monday-Friday.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571) 272-2475, The fax phone number for the organization where this application or proceeding is assigned is (703) 872 9306.

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'pm' or similar, with a small 'pm' printed below it.A handwritten signature in black ink, appearing to be 'N.D. Patel' or similar, written in a cursive style.

**NIMESHKUMAR D. PATEL  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800**